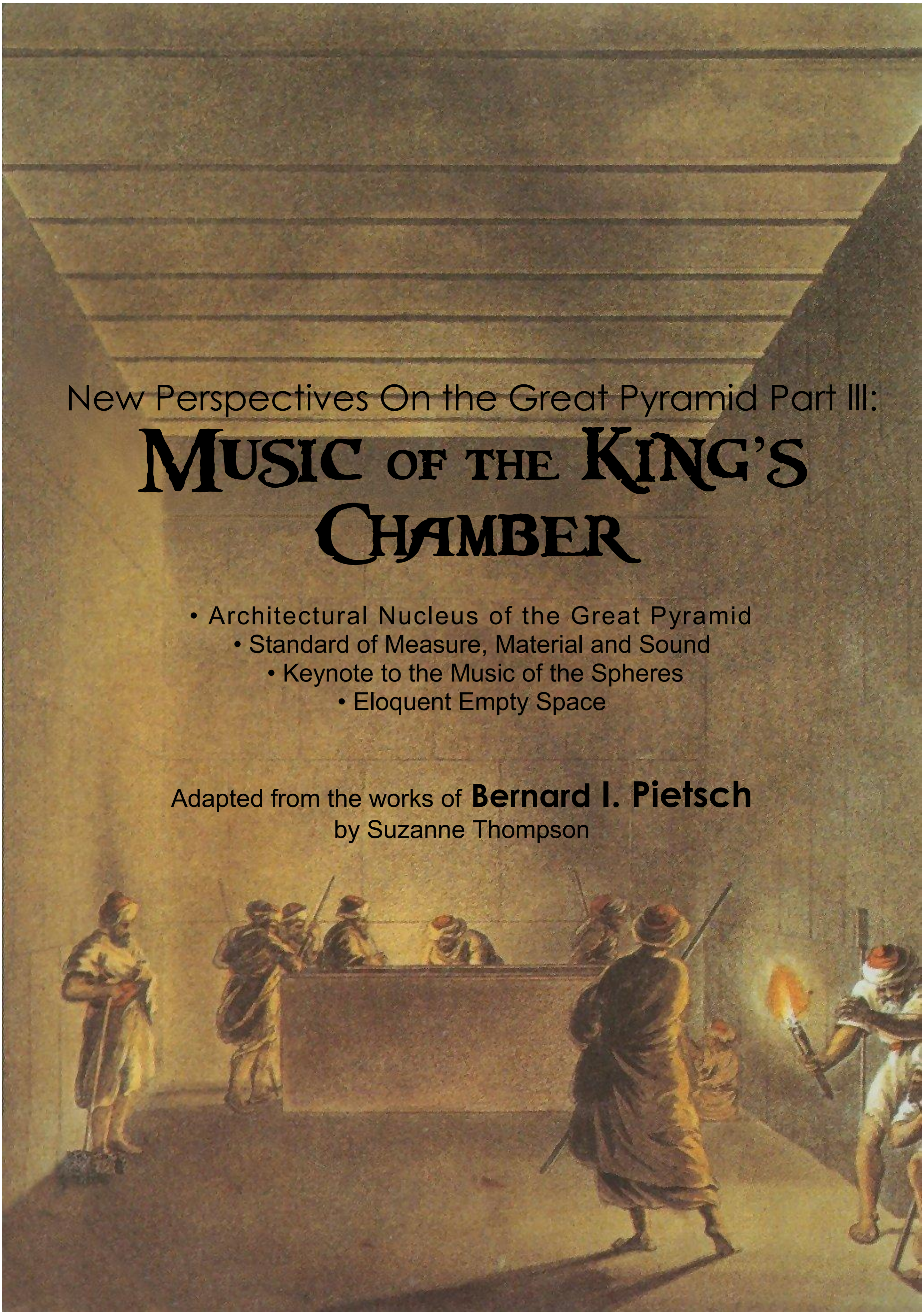

New Perspectives On the Great Pyramid Part III:

MUSIC OF THE KING'S CHAMBER

- Architectural Nucleus of the Great Pyramid
- Standard of Measure, Material and Sound
- Keynote to the Music of the Spheres
- Eloquent Empty Space

Adapted from the works of **Bernard I. Pietsch**
by Suzanne Thompson

Prologue

In the spring of 1976, Bernard received a phone call from jazz musician Paul Horn. Paul was preparing for a trip to Egypt that would include an improvisational recording session in the Great Pyramid. The recording produced from that trip was to become the popular new age classic, "Inside the Great Pyramid." In the album notes, Paul writes about their conversation:

> "Ben loved the idea, (of playing flute inside the Great Pyramid) and said that sound and vibrations were an integral part of the structure. In fact, he said that every room has a basic vibration to it and that if we can find what it is and identify with it we become in tune with that particular space. I had never heard that theory before, but it made sense to me. Ben went on to say that the main chamber in the Great Pyramid was the King's Chamber. In it is a hollow lidless Coffer of solid granite. He said to strike this Coffer and it will give off a tone. I should tune up to this note and I will be at one with, and in tune with this chamber! ' And by the way,' he said, ' you'll find that note to be 'A' 438 (vibrations per second…'A' 440 is the established pitch for tuning in the West.) He seemed to know this quite definitely, although he had never been there."
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> "In the weeks to follow, I located a battery-operated device called a Korg Tuning Trainer which could give me the exact pitch of any tone by registering it on a meter. "What the heck," I thought, "just in case."

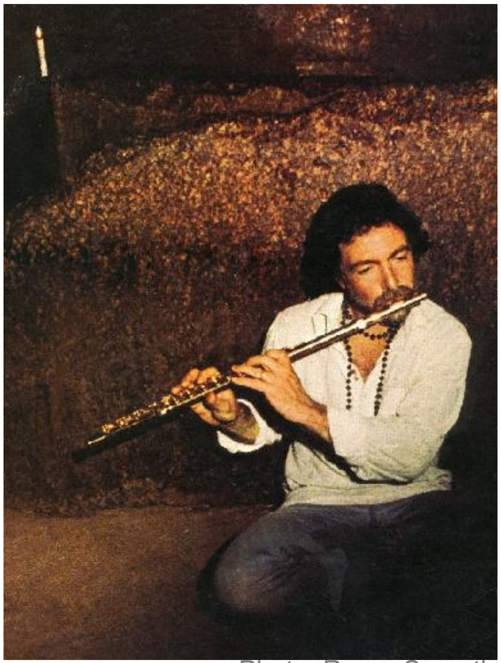

Photo: Roger Smeeth

> "The moment had arrived. It was time to play my flute. I thought of Ben Pietsch from Santa Rosa, California and his suggestion to strike the Coffer. I leaned over and hit the inside with the fleshy part of the side of my fist. A beautiful round tone was immediately produced. What a resonance! I remember him also saying when you hear that tone you will be "poised in history that is ever-present." I took the electronic tuning device I had brought along in one hand and struck the Coffer again with the other and there it was—'A' 438, just as Ben had predicted. I tuned up to this pitch and was ready to begin...The echo was wonderful, about eight seconds. The chamber responded to every note equally. The album opens with these events so that you can hear all of these things for yourselves. "[1]
>
> --Paul Horn.

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[1] Sound of the Coffer from "Inside the Great Pyramid" ©1977 by Paul Horn. All rights reserved. Used with permission.

In Tune with the Cosmos

The album “Inside the Great Pyramid” begins with the sound of three strikes on the sarcophagus. Its dramatic bell-like tone reverberates in the air of the chamber. Then, overlaying the sound of the Coffer, one hears the electronic tone of the Korg tuner followed by the smooth tone of Paul’s flute matching the sound. By re-tuning his flute to this frequency, every note he plays thereafter is reconciled to the harmonics of the room. At that moment Paul’s playing was in synch with the musical/numerical hologram of the pyramid--he was *actualizing* the wisdom alluded to in esoteric rhetoric, his playing summoning knowledge not consciously invoked in 5 millennia**.** The *numeric frequencies* of the notes played become a library of information integrating the proportions of the pyramid with the dimensions of the earth and the human body. The pulse of human physiology harmonizing with the periods of the planets--truly, jazz in conversation with the cosmos.1[2]

A Note on the Significance of Tuning

The industry standard for the tuning of musical instruments in this country was not established until 1939. In previous centuries, Concert A varied from a high of 567 Hz in 1619 to a low of 403 Hz in 1648. Until recently, differences in the tuning pitch of various instruments caused numerous problems for ensemble playing. For example, an organ built in one period may have been tuned low, while a wind instrument from another era may have been tuned a half tone higher. To remedy the problem, Concert “A” at 440 Hz was adopted by an international convention in 1889. As a result of that agreement all concert instruments now tune to the same pitch. Although utilitarian, the tuning standard of A/440 was not selected for its organic properties--the numerical frequencies of the notes of the modern musical scale no longer correspond to anything meaningful.

But the scale Paul played in the King’s Chamber, based on the tuning frequency of A/438.18 Hz, expresses in number, natural, meaningful correlations. All the frequencies of the notes of the scale which he played are significant. Whether scaled up or down by the decimal, doubled, divided, trebled, quadrupled or rendered an octave higher or lower as in music, the permutations of **438.18** relate to the entire pyramid. Dramatically, each permutation of 438.18 corresponds to some dynamic process, physiological function or property of the pyramid. **438.18** is a fundamental alchemical number, intimately linked with the family of Canon Measures.

Pythagoras (550 BCE) explained music as the expression of universal harmony which is also realized in arithmetic and in astronomy. Kepler (1600) correlated musical tones and intervals with the movements of the planets and astrology. Leibniz (1700) called music an “unconscious exercise in arithmetic.” The notion that music could also be a medium of *objective* communication—is more obscure. But in an ancient time, we believe that music incorporated in its *structure* elements of an ancient science. The source of modern music is rooted in this ancient communication form. Like a hidden treasure, the keys to the treasure are the proper frequencies that animate the information and bring it to light. Though not consciously recognizing it, while listening to Paul’s record, millions of people have been subliminally receiving information encoded in the musical tones he plays. Now for the first time we can knowingly appreciate the beauty of the intended tonal correspondences.

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[2] More about Paul Horn at: *www.**paulhornmusic**.com*

Building a Library of Sacred Numbers

Using 4**38.18** Hz derived from the Coffer as the referent frequency, we can build a simple diatonic major scale. There are three different intervals between the successive notes of the scale. The interval between *do* and *re* is **1.12**5. Between *re* and *mi* it's **1.111**, between *mi* and *fa* it's **1.0666**, between *fa* and *sol* **1.125**, between *sol* and *la* it's **1.111**, between *la* and *ti* **1.125**, and last between *ti* and *do* it's **1.0666**. The higher *do* is twice the frequency of the lower *do*.

When **438.18** Hz (the frequency note of the Coffer) assumes the position of *do,* the next notes of the scale, by diatonic formula are as follows:

Table of frequencies of the notes of a major diatonic scale using 438.18 as referent *do*.

438.18	*do*	x 1.125 =	**492.9525** *re*
492.9525	*re*	x 1.111 =	**547.725** *mi*
547.725	*mi*	x 1.066 =	**584.24** *fa*
584.24	*fa*	x 1.125 =	**657.27** *sol*
657.27	*sol*	x 1.111 =	**730.30** *la*
730.30	*la*	x 1.125 =	**821.5875** *ti*
821.5875	*ti*	x 1.066 =	**876.36** *do*
876.36	*do*	x 1.125 =	**985.905** *re*

Assuming the liberty to move decimal points, the correlations from just one octave are numerous. Listed below is a sampling of the meaningful correspondences nested in the musical scale. In this initial octave for example find that:

438.18 times 2 = 876.36. Moving the decimal, as 87,636, this number corresponds to the seconds in one day of the sacred year of 360 days: 87,636 seconds.

492.9525 ÷ 1.5 = 328.635. There are 3.28635 feet in one Canon Meter.

492.9525 ÷ 81 = 6.0858333. As 6085.8333 equals the number of feet to the minute of arc on the equator of 25,000 Canon Miles (5258.16 feet)

547.725 As 5477.25 inches: We find the intended height of Cheops' Pyramid to the top of the 206th course. Also:

547.725 x 1.1111 = 6085.8333: The number of feet in the Canon Minute of Arc on the equator. Also:

547.725 x .6666 = 365.15 days to solar year. And:

547.725 x 1.666 = 912.875. 9,128.75 is the mean number of inches on each side of the base of the Great Pyramid.

584.24 ÷ 1.11111 = 525.816. As 5,258.16, the number of feet in one Canon mile. As 525,816, the number of minutes in the sacred year of 360 days.

584.24 ÷ 1.6 = 365.15 as 365 ¼ Days in the solar year.

657.27 As feet in the Canon Furlong. There are 8 Canon Furlong in one Canon Mile:
8 x 657.27' = 5258.16 feet.

657.27 x 2 = 1314.54. As 131,454,000 Canon feet in the Earth's equator of 25,000 Canon miles.

730.30 x 2 = 1460.6 minutes in one Sacred day (360/year).
730.30 ÷ 2 = 365.15 Days in solar year.
730.30 x 50 = 36515 inches in the base of the Great Pyramid.

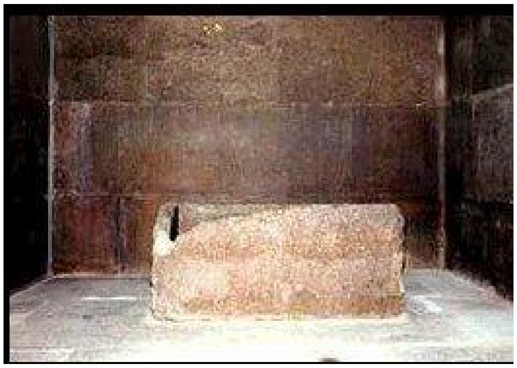
821.5875 x 4 = 3286.35 ÷ 1000 = 3.28635 inches to one Canon Meter.
821.5875 x 11.111111 = 9128.75 inches on base side of Cheops' Pyramid.

By continuing the octaves above and below this one, other co-incident values will be derived. Any of the above frequencies could be used as "do" and the octaves built from that note. Permutations into minor scales, augmented etc. could also be productive. The musical scale thus rendered is a library—perhaps the source of the original "music of the spheres."

The Coffer As Sacred Space

The sound produced by the Coffer is from the Coffer but not the Coffer itself. The Coffer *contains* the sacred—as space and as sound. Its attributes consist of both physical and non-physical characteristics. Dimension, shape and material define its mass, but several important *indicated* elements articulate the form as well.

As the sacred is best communicated by pure space, the *contents* of the Coffer contain information of universal relevance. Never intended as a sarcophagus for the remains of the pharaoh, the Coffer is the repository of information about the human body, from which are derived the "laws" of the Canon of Measure. Its true content is its eloquent *empty* space.



Metaphorically, the Coffer rests *on* the floor of the King's Chamber, where upon are "written" the frequencies of the planets. (See Part I of the *Well Tempered Solar System*). As the only moveable object in the pyramid, it is categorically different from other features; it is both *in* the pyramid and yet not *of* the pyramid. In both material and character, the red granite Coffer is set apart from other features. We believe it to be the object to which Plato refers in the Critias, "as the pillar of orichalcum in the center of the temple, in the center of Atlantis, upon which are written the laws." Orichalcum, a mythical alloy of unknown origin was spoken of as more "precious than gold".

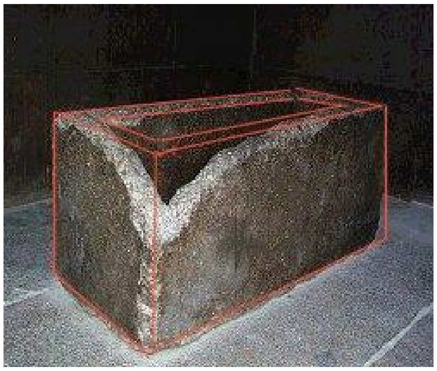
The "laws" are written in the dimensions, geometry and measures of the King's Chamber and the interplay between the components of the Coffer and the chamber. Consistent with the holographic nature of the pyramid's design, we see the Coffer as a singularity--a nucleus from which the pyramid itself could be germinated—an individual module containing the essence of the whole pyramid.

Designed as a model of the human being, the pyramid directs us to attend to the physiological frequencies of the individual: heartbeat, breath, vibration of the voice etc. As all human beings evolved in the same vibratory milieu of the earth, the harmonics of the planets are part and parcel of our physical organization. Our physiological frequencies are the distillation in *time* of the motions of the solar system—we are the container of the planetary symphony. Individually and collectively regardless of geography, little has changed in the physiology of the human being of 40,000 years ago and the physiology of a human being today. We are unified by our common planetary evolution. As to the question "Was the pyramid built by aliens?" If the Great Pyramid had been built by an extra-terrestrial race, its architecture would have reflected the biological inheritance of that alien physiology, a physiology that would have evolved in a different astronomical environment.

The Coffer As Oracular

The miraculous nature of an oracle is not that it can prophesy the future, but that it can propose a sufficiently abstract notion upon which one may project his own counsel. Likewise, the Coffer in the Kings Chamber, though only stone, is an oracular projection of the mind of the architect. An architect of such caliber would have been able to harmonize diverse elements into a single concept, and then rendered that concept as a three-dimensional form/statement. The meaning of the work would be sufficiently universal to be read and appreciated by a like Mind--the Mind that is potential in each of us. This is the hallmark of Objective Art --that one harmonized Mind can meet another harmonized Mind through a work, and "read the intent of the art form," no matter the separation of time. Measure makes this transport of thought possible. The vehicle is the Canon of Measure.

The Canon of Measure, neither culturally dependent nor derived, is *emergent* in all ages, on all continents--wherever Mind comprehends itself, it creates measures resonant with the human body. The Coffer, as we are about to show, is a composite of Canon Measures and human physiological frequencies. What one finds when deciphering the Coffer, is him or her self. The wisdom this oracle provides is contact--with Mind, the Higher Self, the Universal hologram, whatever name one has for the miraculous.



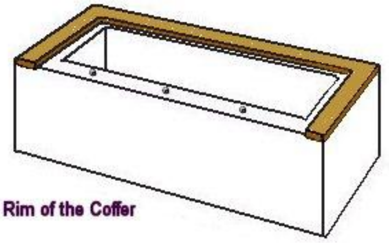
As we wish to participate with the mind that constructed the Coffer, our aim is to interpret the form and translate it into understanding. The Coffer itself is anchor, icon, and director of the process. Just as Paul tuned his flute to match the vibration of the Coffer, we have the opportunity to tune into the intention of the designer of the Coffer, the chamber and the pyramid as a whole. Our instrument is the Canon of Measure, and it is attuned to the mind of the architect and to the universal processes the Canon represents.

Reconstructing the Coffer

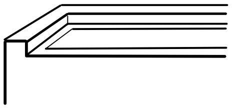
From the measures of Petrie, Smyth and others we adopt from the crumbled remains of the Coffer in the King's Chamber, a perfect *indicated* rectangular container. Though there may be some small departure from measures taken by others, we are committed to the measures intended by the architect as indicated by the geometry. These measures correlate with the grand design of the pyramid—a grand design derived from "whole cloth," meaning a central unified framework. Every measure accords with every other measure in some fashion. There are ample demonstrations to show that the pyramid architecture follows such a plan. Even though the physical Coffer is roughly hewn and the red granite has been chipped by tourists, its dimensions and geometry can be attained--the perfect form can be fulfilled from the fragment. The intended measures correlate with meaningful values.

The Coffer Rim

Originally the Coffer had a stone rim around three sides of the top. Over a hundred years ago, Piazzi Smythe measured what little remained of the rim, as it had been fairly well destroyed by then. By careful observation he was able to extrapolate the dimensions of the three sections of stone that would have enclosed a lid, had there been one. (The dimensions of the Rim are often omitted in descriptions of the Coffer. More frequently than not, interpretations based on the measures of the Coffer do not include provision for the Rim.)


Rim of the Coffer

Using Smythe's measures as a starting point, we were able to extract the *intended* measures of the form. The concept intended by the geometry could never have been executed perfectly in stone--but it could be indicated. The dimensions that follow closely indicate the designer's conception. The angles, measures, areas and volumes sychronistically merge with one another—each perfect manifestation indicating yet other correlations.



- The thickness of the rim is 1.747572816 inch high. (This is one-tenth the Canon Remen of 17.47572816 inches.)
- On its backside, the rim is the length of the Coffer 90". It is 4.25244079 inches wide.
- Each arm of the rim is the width of the lid, 34.3333 inches long, and 4.546925566 inches wide.
- The volume of stone in all three sections would have been **1214.451567** cubic inches.

This last number of cubic inches of volume, **1214.451567** is not quite the figure we would expect. But as an indicator, it is very close to the ratio between two important Canon Units: the Sacred Cubit of **25** inches and the Common Cubit of **20.6** inches. The relationship between the two, multiplied by 1000 approximates the volume in the rim:

$$\frac{\text{Sacred Cubit: } 25}{\text{Common Cubit: } 20.6} = 1.213592233 \times 1000 = \mathbf{1213.592233} \text{ cubic inches}$$

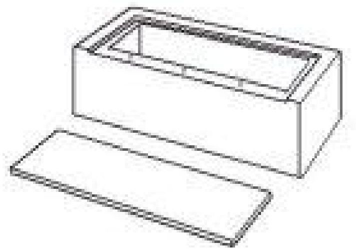
The difference between the volume derived from the concept of the Sacred Cubit divided by the Common Cubit and the measured approximation of the volume of the rim, would be less than one cubic inch. To reiterate: though it can be indicated, perfection cannot be attained.

One further attribute of the number **1.213592233** is that it is also the common logarithm of 16.35280406, which has a reciprocal of

$$\frac{1}{16.35280406} = \mathbf{.0611515919}$$

This last, as 06 11 51.59 can serve as another referent for the time period of the last quarter day of the calendar year: 6 hours, 11 minutes, 51.59 seconds.

The Virtual Lid



We begin the deconstruction of the Coffer by apprehending a non-material feature of the sarcophagus—the lid. There is little reason to suspect that a physical lid ever accompanied the Coffer in the King's Chamber. There is no evidence that one ever existed. Unlike sarcophagi in other tombs, there seems to be no provision for locking the lid to the Coffer. Although there are 3 fixing-pin holes in the top ledge of the Coffer, they would not have prevented a lid from being lifted off.

As we see it, the *concept* of the lid is consistent with similar Pyramid motifs: it was not intended to be seen as physical. It is not stone; it is not existential. The dimensions of the sides of the lid can be inferred by the top edges of the stone Coffer, but the lid is not delimited on its top surface. The top of the lid is indeterminate because it *is* not. It is only indicated. For this reason we construct it as a *virtual* form.

The Virtual Lid connotes an even higher level of abstraction than that represented by the Inner Space of the Coffer. The indicated geometry suggests a kind of transcendental mathematics—where the perfect is nearly obtainable. An example of near but not quite perfect correspondence is found if the volume of the Coffer as a rectangular solid (143,020.7093 cubic inches), is divided by the volume of the indicated lid (4,854.368932 cubic inches). The ratio would be 29.46226612.

Special notice can be taken that the number of this ratio is very nearly 29.469444, the perfect representation for the Canon calendrical years in one orbit of Saturn. [3]

The measures *in* the Coffer relate to the human body. The measures of the Virtual Lid correlate to Kronos or Saturn, the source of Canon measure on the planetary level. This is referent to the invisible/Virtual Lid/Saturn, being ever attendant in the physical /Coffer/ body.

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[3] (In the King's Chamber, the surface area of the Saturn floor stone is 10760.76764 square inches. If we counted each square inch as one Earth day (365.15 days/year) the total would be 29.4694444 years. See more about Saturn Source of Measure and the King's Chamber Floor in previous chapters.)

From a Measure of Volume to a Measure of Time

The Canon Common Cubit of 20.6 Canon Inches has a special relationship with time. As 20.6 *minutes*, it represents the difference between the mean solar day of 1440 minutes and the Sacred Day of 1460.6 minutes. (360 Sacred Days/Year). As 206 years, it represents 7 orbits of the planet Saturn, the period of time to which the 206 courses of the Pyramid correspond—one course per year. The Golden Number, .618 is nested in .206 as a multiple of 3. The obliquity of Earth's orbit, 1.03 is a divisor of 2.06. The application of 20.6 is broad and multidimensional and figures prominently in the pantheon of synchronistic units of measure in the pyramid and also in the Coffer.

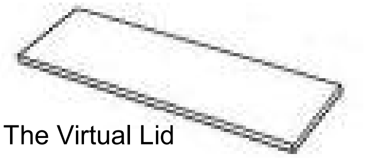
The length of the lid (80.90614887") is **3.92**7482955 Common Cubits.

$$\frac{80.90614887''}{20.6''\ (\text{1 Common Cubit})} = \mathbf{3.92}7482955 \text{ Common Cubits}$$

3.92 refers to 3.92 minutes or 3 minutes 55 seconds--the number of minutes difference between the mean solar day of 1440 minutes and the mean sidereal (star) day of 1436 minutes.

- The volume of the three dimensional space that the lid alone would have taken up would have been: **4,854.368932** cubic inches.

  4,854.368932 divided by 1,000 is **4.854368932**, the number of inches in the Canon Handbreadth or Palm. The reciprocal of the Handbreadth times 100 is the same number as the inches in the Common Cubit 2**0.6**.



The Virtual Lid

- The common logarithm of the cube root of the number of cubic inches in the lid, very nearly represents the length in feet of a pendulum which beats the same number of times per second as its length in feet, **1.228068554** feet /seconds:

  $$\{\sqrt[3]{4,854.368932}\}^{-10} = \mathbf{1.228710927}$$

  1.228068554 as feet, unifies linear measure with time through the function of the pendulum. It is used to translate physical properties e.g. length, width, area, to dynamic functions occurring in time.

- The thickness of the lid, 1.747572816" is one-tenth the length of one Canon Remen of 17.47572816 inches.

- The reciprocal of the number of inches in the length of the lid (divided by 1000) is the same number as the number of inches in the perimeter of the King's Chamber:

  $$\frac{1}{.000809614885} = \mathbf{1236} \text{ inches}$$

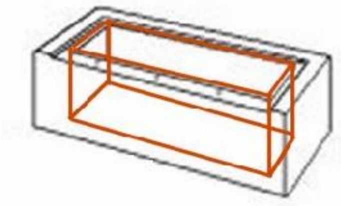
- The cotangent of the surface diagonal angle of the lid (length ÷ width) is **2.3563489773**. In the King's Chamber, the height of the chamber from the *surface* of the floor to the ceiling is 230.2585093 inches. The walls continue 5.3909467926 inches more below the surface of the floor making the walls actually **235.6489773** inches high, or 100 times the value of the cotangent of the diagonal angle of the lid.

- The width of the lid, 34.333333 inches divided by the number which converts decimal numbers into sexigesimal numbers 1.6666, yields the number of the Canon Common Cubit: 20.6. In the physical world the Sacred/Canon day of 1460.6 minutes, like the virtual Coffer lid is not visible. 20.6 minutes separate the visible from the unseen—the difference between the mean solar day at 1440 minutes and the Sacred Day.

- The length of the lid, 80.90614885 inches divided by 20.6 inches = **3.927482950.**
  As minutes **3.927482950** represents the difference in time between the mean solar day of 1440 minutes and the mean sidereal (star) day of 1436.07251 minutes. This figure would yield a mean sidereal year of 366.1486406 days.

- The length of the lid, 80.90614885 inches x 60 = **4,854.368**932. This same number read as cubic inches, is also the volume of the lid.

Correspondences: The Inner Space of the Coffer



Dimensions of the Inner Space Of the Coffer

Width: 26.74142006”
Depth: 34.44444444”
Length: 77.88763124”
Volume: 71,510.35467 cu “

The Inner Space is contained by the side walls and bottom surface of the stone Coffer. The rectangular form extends through and includes the area that would have been taken up by the Virtual Lid, so that its top surface is level with the top of the rim.

- The volume of the Inner Space of the Coffer is derived from the Common Cubit**:** **20.6** Canon inches**:**
  The reciprocal of **.206** is 4.854368932. (As inches 4.854368932 is also known as the Canon Palm or Canon Handbreadth.)
  The common logarithm of the volume of the inner space of the Coffer-- 71,510.35467 cubic inches, is also 4.854368932. Said differently:
  $(1 \div .206)^{10}$ = **71,510.35467 --**the same number as the volume of the inner space in cubic inches.

- The square root of the cubic volume of the inner space divided by 10 is the width of the inner space in inches:

$\sqrt{\mathbf{71,510.35467}}$ is 267.4142006.

267.4142006 ÷ 10 = **26.74142006** the width of the Coffer in inches.

- The reciprocal of the 4th root of the volume corresponds to an important astronomical measure:

$$\sqrt[4]{\mathbf{71,510.35467}} = \mathbf{16.35280406}$$

$$\frac{1}{\mathbf{16.35280406}} =$$ **.061151591** or 6 hours 11 minutes 51 seconds--the hours and minutes of the last quarter day of the solar year.

- The common logarithm of the cube root of the volume of space in the Coffer is the Golden Number:

$$\left(\sqrt[3]{\mathbf{71,510.35467}}\right)^{-10} = \mathbf{1.618122977} \qquad \frac{1}{\mathbf{1.618122977}} = \mathbf{.618}$$

- The Inner Space is one-half the volume of the entire Coffer. The stone mass, which includes the Rim, comprises the other half. The Inner Space is exactly **309** Canon Gallons. In Canon terms the Gallon represents the volume of one full “conscious” inhalation of the breath (231.425096 cubic inches.) Symbolically, the volume of the empty Inner Space in the Coffer *plus* the volume of stone enclosing it represents 618 full inhalations/exhalations: **309 x 2** or **618** gallons--again, the Golden Number.[4]

- The ratio of one human breath to one human heartbeat is a key for understanding the significance of the Coffer. During the time it takes to breathe one full Canon Breath, **3.441888** Canon heartbeats of 60 cycles per minute, would elapse. (There are numerous correspondences with this heart-to-breath relationship in the pyramid, the solar system and the Canon of Measure.) **By relating the Canon Gallon with the length of *time* taken to experience a single breath, a measure of volume is coupled with a measure of time.**

- The relationship between breath, time and volume is exposed when it is realized that the empty Coffer holds 309 Canon Gallons/Breaths. In the period of time it would take to breathe 309 breaths, **1063.54366** heartbeats[5] or seconds would have passed. **1063.54366** seconds as a period of time becomes significant when used in conjunction with another Canon frequency originating in the human body, the rate of the vibrato of the voice. During one heartbeat (one second), there are 5.15 vibrato of the voice, therefore in the time of 309 breaths, or **1063.54366** seconds, there would be 5477.25 vibrato. Sychronistically, 5477.25 is the same number as the number of inches to the original top of the pyramid at the 206th course:

  (1063.54366 x 5.15 = 5477.25)

- In the time of 3.441888 heartbeats, (the duration of one Canon Breath) there are 17.72572773 vibrato:

$$\frac{17.72572773^{2}}{100} = 3.142014236, \text{ approximates } \pi$$

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[4] 1.618122977 which as a reciprocal of exactly .618, the Canon value for the Golden Ratio. All of nature and dynamics render obeisance to the Golden Proportion in form and structure. It is a root number of the Canon of Measure used in all the world’s great architecture. See more about this most important ratio in a previous offering: Saturn Source of Measure.

[5] A curious intuitive coupling: 1063.5 as degrees C, is the standard melting point of gold.

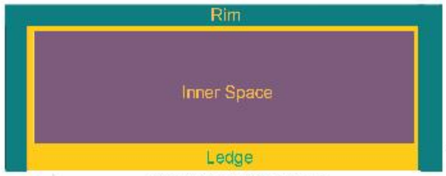
- The utility of the Canon System of Measure is that it unveils fundamental links between the natural order and the language of number. In astronomy, an essential measure of timing, is the *mean* rate of the precession of equinoxes. In the following example, an estimate of the rate of the precession of the equinoxes is juxtaposed between one Canon breath and the rotation of the planet Earth. The Canon signification for this value is 50.90017909 seconds of arc of equinoctial precession per year. During the period of one Canon breath, our Earth rotates through 50.90017909 equatorial seconds of arc on the equator. Stated differently, during 3.44188 seconds of time (the duration of one Canon Breath), the equator will rotate 5162.83333 feet. When this is divided by the number of feet to one Canon Second of Arc, (101.430555 feet) the result is 50.90017909 seconds of arc, which is co-incident with the mean rate of precession per year: 50.90 seconds.

It could be said that breath *is* precession. Just as we are older with each cycle of breath, the point of precession advances ceaselessly round the celestial equator. The pulse of the human heart and breath mete out a cadence choreographed by the heavens. Ironically, the astronomer looks through his telescope, for confirmation of a timing apparatus that is already within. The source is our own breath.

The Ledge and the Rim

The Ledge supports the Virtual Lid. The edges of the Virtual Lid would rest upon the four-sided Ledge. The geometry of the Ledge (yellow) if removed from the context of the Coffer, would appear as a two dimensional frame, as long and as wide as the Virtual Lid on the exterior perimeter but with no depth, just surface. The front edge of the Ledge, defined by the front wall of the Coffer, is wider than the rear edge. The end planes are of equal width.

Dimensions of the Ledge:
80.90614887 inches long.
34.3333 inches wide.
1.669736226 inches wide on the back edge.
5.922177044 inches wide on the front edge.
1.509258829 inches wide on each end.



Viewed from Above

In the diagram on the right, the top plane of the Virtual Lid is composed of the Yellow and Purple areas combined. The Virtual Lid plus the Rim (green) comprise the entire geometric top surface of the rectangular Coffer: 3,472.719673 square inches.

- There are 694.444 square inches in the area of the Ledge (yellow).

- There are also 694.444 square inches in the top surface area of the three sided Rim (green).

The Rim and Ledge are examples of a geometric redundancy employed by the designer to insure the communication is clear. From this redundancy we recognize the intention, **69.4444** --the number of Canon Miles to one degree of arc on the earth's equator.

- The surface area of the top plane of the Virtual Lid is 2777.777 square inches. (The reciprocal of .0027777 is 360). If that area which would rest upon the Ledge is subtracted from the Virtual Lid:

  2777.777 - 694.444 = 2083.33333 square inches

  --the remaining surface area, 2083.33333 square inches of the Virtual Lid not touching the Ledge, when multiplied by 1.747572816, (the thickness of the Virtual Lid and also one-tenth Canon Remen) is 3,640.776699 cubic inches, the volume of the Interspace.

The Inter Space

The Coffer is a meditation on the duality of space and stone. Line, number and angle mediate between the material vehicle of the Coffer and its intellectual complements. Geometry and measure are the instruments of reconciling this polarity. The design leads to the contemplation of the evolution of the physical from the substantial, which can only be implied. We are reminded of Plato's words in the Timeaus, section 52, wherein he discusses how "reason maintains that while two things (i.e. image and space) are different they cannot exist one of them in the other and so be one and also two at the same time. " He continues,

"And there is a third nature, which is space, and is eternal, and admits not of destruction and provides a home for all created things, and is apprehended without the help of sense, by a kind of spurious reason, and is hardly real; which we beholding as in a dream say of all existence that it must of necessity be in some place and occupy a space, but that what is neither in heaven nor in earth has no existence."

The use of the word "created" is applicable only to empty space. It is a term which belongs to those higher dimensions of mind which are able to see beyond the world and its limitations. In this realm, there is no friction of ideas—harmony is unrestricted by the boundaries of math, geometry and physics. "That which is to receive all forms," Plato says in the Timeaus, "should have no form." The *essence* of the Coffer, as container of all, can only be implied, and as he says, "provides a home for all created things." The implication of Plato's words find substance in the geometry and form of the King's Chamber, the Coffer and the entire Pyramid. It is of little consequence that millennia intervene between architect and philosopher—the communication abides in the stones. If but a shard remains, the message can be fulfilled.

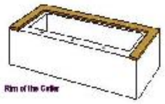
Doubling of Space

Thus far in considering the Coffer in the King's Chamber, several categories of geometry have been described

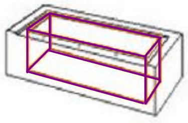
- Those volumes *occupied* by actual stone.
- The space *enclosed* by stone, e.g. the empty inner volume of the Coffer.
- Those spaces *indicated* by extension of the physical geometry: the Rim, the full rectangular Inner Space up to the top of the Rim, and the Virtual Lid inferred by the geometry of the Rim.

There is a fourth level of indication, more subtle yet no less dramatic where the architect employs a clever *double entendre* to convey a redundancy of space. The device is most clearly demonstrated within the geometry of the Virtual Lid, where two volumes and two notions intersect to occupy a single space.

Recall that the Lid, since it is a construct, has no physical existence. It exists purely as an object of the mind. Defined by the geometry of the Coffer it has form, but no substance. Only as a quasi-existential feature, can it be given both dimension and position relative to the physical Coffer. The lid is both there and not there, hence the term *Virtual Lid*.

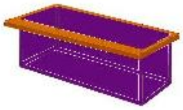


Visualize the rectangular shape of the Inner Space (up to the level of the top of the Rim), sitting within the walls of the Coffer.

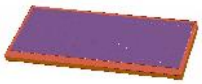


Then slide the Virtual Lid in place, between the Rim and on top of the Ledge.

Being that there is no substance involved, when the Virtual Lid is in place, the geometry of the Inner Space intersects with the geometry of the top of the Virtual Lid and a third rectangular area is defined. This area is part Virtual Lid and part Inner Space. In the diagram, the stone of the Coffer has been removed. Only space is illustrated. Just the Inner Space (purple) and that part of the Virtual Lid not intersecting the Inner Space (orange) are shown.



This third rectangular area created by the intersection of Lid with Inner Space we refer to as the **Inter Space**. (Purple) It is as wide and long as the Inner Space and as thick as the Virtual Lid.



There are two approaches to defining the Inter Space. One way is to see that it is created where the Inner Space *projects* into the Virtual Lid. Another way of seeing it is as that part of the Virtual Lid which does not rest upon the Ledge. The space, though identical in both cases, is defined by two different parameters. Figuratively, the architect wants us to see “one area is as two,” that inside the purely virtual boundaries of the Inner Space, two entities can occupy a single space.[6]

The geometry surrounding the intersected area is further isolated when the Inner Space intersecting the Virtual Lid is withdrawn. We name this area the Frame.

Through the process of dissection, individual components of the Virtual Lid are differentiated and the invisible anatomy of the design is revealed. The architect transcends the idea of occupied space by indication and redundance: the physical part of the Coffer validating the invisible. For we find that the volume of the Rim (physical) is equal to the volume of the Frame (invisible).

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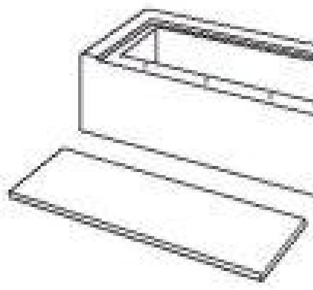
[6] Another notion precipitated by the volume of the Inter Space is Plato’s Number of the Tyrant. The volume of the Intersected portions of Lid and Inner Space is 3,640.777798 cubic inches. As indicated by the design, the space is occupied by two entities. It is meant to be counted twice. Two times 3,640.777798 equals 7,281.555595. Divided by ten we recognize the figure as **728**.1555 our designation for the Number of the Tyrant. This number alone generates a multiplicity of correspondences. More on the Number of the Tyrant and its context in esoteric science will follow. This science is hidden from intellect but observable on every hand--as events unfolding in the Natural Order.

Chamber of Initiation

The notion that mystery school initiations took place in the King's Chamber is greatly romanticized in the fantasy lore of the Pyramid. The Coffer is imagined as an altar wherein the novitiate, lying in the sarcophagus undergoes some secret rite and attains to higher power. From our understanding initiation is not a passive process; it is not bestowed *to* the aspirant from outside. Only from within and by active participation with the instruments of perception is an individual reorganized. The Coffer, or a grain of sand if perceived rightly, is but a portal to this possibility. The Coffer's true content is not physical, but conceptual. Its essence resides not *in* it—but within us. As model and icon of instruction, the geometry of the King's Chamber and Coffer affirms that it is only within the Self, that initiation takes place. The realization of this message is the benediction of the architect.



Dimensions of Perfect Coffer and Virtual Lid

Exterior Dimensions of the Coffer

Height: 41.18406402 Inches
Width: 38.58577415 Inches
Length: 90.0 Inches

Dimensions of Virtual Lid:

Length: 80.90614885 inches
Width: 34.33333333 inches
Thickness: 1.74752816 inches
Volume: 4,854.368932 cu. in

- When in place, the Virtual Lid atop the Coffer completes a perfect rectangular shape. The volume of this entire geometry is: **143,020.7094** cubic inches.

- Expressed as Canon Remen (17.47572816") the volume of stone, lid and inner space would be 26.79742635 cubic Canon Remen, very nearly the width of the inner space of the Coffer in inches. The reciprocal of this number, times 10^4 is **373.17**01645 which when divided by 12 is the number of Canon grams in one Canon ounce of gold: **31.097531238**.

$$\frac{1}{26.79742635} \times 10{,}000 = \mathbf{373.1701645}$$

$$\frac{\mathbf{373.1701645}}{12} = \mathbf{31.09753128}$$

- The number of the volume of stone, space and lid in the Coffer, 143,020.7093 has a common logarithm of 5.155. This figure, x 100 = 515.5. 515.5 is the number of inches in the major diagonal angle of the King's Chamber.

A Slice Off the Top

The rectangular solid form of the Coffer, (90" x 38.5" x 41.10") is 143,020.7093 cubic inches. If we were to slice off a section the thickness of the Virtual Lid from the top of the solid form of the Coffer, that section would have a volume of 6,068.83490 cubic inches. (1.747572816" x 90" x 38.5" = 6,068.83490 cu ")

The volume of the remaining rectangular form (the Coffer minus the slice) would be 136,951.18788 cubic inches.

The ratio between the slice and the remainder is 22.56641954.

- The reciprocal of this number divided by ten is the sine of the angle of the Ascending Passage in the Great Pyramid:

$$\frac{1}{2.256643205} = .044316301 \quad \div 10 = .44316301$$

which is the sine of 26.30414082° or **26°18'14.1491"**
Another example of part indicating whole.

Geometry as the Metaphor of Transformation

The meaning of the architect's metaphor, most articulately demonstrated by empty space, is that all is changing. The empty space is the broken corner, the uncompleted form that speaks to us of what is possible.

The objective is to stand *outside* the pyramid, to see beyond its totality, beyond the passageways, beyond the various individual elements that capture our attention, and ultimately beyond the stones. Realizing that exterior forms merely indicate an interior reality, we are then left with the opportunity of understanding that what we see is *within* us. This interior reality and the sublimity of its experience are beyond physical expression.

It is our understanding that the only treasure to be found is the *event* of transformation that occurs with this realization. Although transformation itself can never be commanded, the miraculous nature of transformation is that it is available, potent and possible in the simplest perception or the largest--it occurs unbidden in an instant of transcendence. To access one's own total *now*, is to open the self to change in the ascendant spiral of becoming.

Epilog

In the fall of 1976, I attended a conference in San Diego where Paul recounted his adventures in Egypt and played a tape of the music recorded in the Great Pyramid. I was dazed and amazed by the performance and by the fact that I had been correct in predicting the sound of the Coffer prior to having experienced it myself. Afterward in a coffee shop, I jotted down on a napkin the poem that Paul later used on the back cover of his recording "Inside the Great Pyramid." It flowed uninterrupted and complete as follows:

To Be! Listen! In Eternity!

Hear, Now, the sound of the Golden Measure.
The sound, he stirred in Cheops' heart
The Golden Horn in the midst of Treasure
Emits the wave of Time's own start
To Be!
The handbreadth recreated on the Golden Sound
These polished walls absorb then rebound
The created measure arises now anew
Reborn, today—here—for you—
Listen!
The gentle refrain reverberates through time
This modern Excaliber recovers the line
Written on the wind and the breath of life
And funnels through the golden horn at its height
In Eternity!

…. Bernard I. Pietsch

If you have questions or comments,
please contact Bernard at

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Video excerpts of Bernard speaking on ancient
monuments are also available at

www.vimeo.com/channels/writteninstone